



## Development of Korea Operational Oceanographic System (KOOS)

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Korea Operational Oceanographic System (KOOS) is a research project funded by the Minister of Land, Transport and Maritime Affairs (MLTM) in Korea and the goal of this project is to develop an integrated operational oceanographic system that will provide nowcasts and forecasts of ocean information around Korean Peninsula to support marine activities for governmental agencies and to mitigate coastal disasters such as storm surge, oil spill, and search and rescue.

Since August 2009, KIOST has been leading the project to develop KOOS, which consists of three parts, 1) observing systems, 2) numerical modeling with data management and skill assessment, and 3) practical application systems.

In KOOS about 190 real-time coastal/ocean observing platforms such as tidal stations, buoys, off-shore research stations and satellites from various agencies, KIOST, KHOA (Korea Hydrographic and Oceanographic Administration), NFRDI (National Fisheries Research & Development Institute), and KMA (Korea Meteorological Administration) have been used for input data as well as calibration and validation for numerical models. With observing networks, various atmospheric models and ocean models have been set-up and tested. KOOS enables us to forecast tides, waves, storm surges, currents as well as temperature and salinity for 72-hour time period in two time a day. The performance of numerical models is evaluated by the skill assessment system. For practical purposes, KOOS has various application systems such as storm surge, search and rescues, oil spill, and ports and channel prediction system. All ocean information in KOOS is to be presented via web-based GIS, which is an effective tool that is helpful to decision-makers.